### PERU LNG

### ANNUAL REPORT 2018





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### Message from the Management

### **O1 MESSAGE FROM THE MANAGEMENT**

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2018 was a year of challenges and achievements for PERU LNG. There were times when we had to both adapt and innovate, but which also strengthened our organization enabling it to overcome obstacles and establish benchmark for technical, economic, social and environmental efficiency in the complex hydrocarbons sector.

We carried out major maintenance on the plant between July and August, as we do every three years, and which is of vital importance in ensuring the continuity and integrity of our operations, installations and equipment.

Because of this and the unusual swell that affected the port, as well as force majeure events in February and October, the plant's performance during 2018 was 92 percent. We produced 198 TBtu of liquefied natural gas (LNG) compared to 214 TBtu in 2017, an 8 percent reduction. 57 methane tankers were loaded (196.1 TBtu).

In March we obtained final permission -from Osinergmin- to begin operating our LNG road tanker loading terminal. July saw the start of commercial operation after complying with the contractual undertakings necessary for the official opening. Both the terminal, which required an investment of USD 17 million, and the requirements that had to be met in order to operate it, are proof of our commitment to the State and the latter's determination to make gas available to all Peru's people. During 2018, 667 road tanker loads (equivalent to 780,500 MMBtu) were dispatched to cities in the north and south of the country.

Another crucially important event was an international bond issue valued at USD 940 million with an interest rate of 5.375 percent. This permitted us to extend the repayment term of the debt until 2030 and to restructure the company's financing, thus obtaining more flexibility in payment of the debt through a schedule that includes a 6-year period of grace. Therefore PERU LNG will start to amortize the debt in 2024. We thus established a historic milestone as this was the largest international bond issue by a private Peruvian company.

As far as social matters are concerned, our commitment to the development of people living close to all of our operations continues. For that reason we have been implementing a community outreach program based on three aims: strengthening skills, education and health. A good example of the first is the Haku Wiñay (My Smallholding) project, which earned the IX Ingepet 2018 Award in the "sustainability and innovation for energy development" category. The aim of this initiative is to improve production and living conditions in rural areas in order to increase incomes and improve access to food security.

In environmental matters and in line with our sustainability policy, our bio-restoration campaign in 2018 included work on 7.6 Km of the right of way, during which native species were relocated and the soil improved by removing stones; we also conducted socio-environmental monitoring involving participation by local communities, in which 10 on-site evaluations were carried out producing 47 findings concerning the operation of the pipeline (of which 39 were resolved appropriately).

In summary, the challenges of 2018 provided a great opportunity to grow as a company and retain our leadership as the operator with the highest standards in the industry. These results would not have been possible without commitment by our team and our stakeholders, whom we thank and with whom we will continue to work in order to create value that benefits them and the country as a whole.



María Julia Aybar VP & General Manager

# Declaration of Responsibility

# 02. DECLARATION OF RESPONSIBILITY

This annual report was completed on March 29, 2019. It contains accurate and sufficient information on the performance of the business of PERU LNG S.R.L. (hereinafter PERU LNG) during 2018. Without prejudice to PERU LNG's responsibility, the undersigned are responsible for its contents in accordance with applicable legislation.

María Julia Aybar VP & General Manager Officer responsible for the financial affairs of PERU LNG

PERU LNG is a limited liability corporation having its registered office at Calle Las Palmeras 435, edificio PAL 400, oficina 302, San Isidro, province and department of Lima, Peru; its telephone number is (511) 707-2000 and its fax (511) 707-2099. The company was incorporated by public deed on the 24th of March 2003, in the presence of notary public of Lima Ricardo Fernandini Barreda, and is registered under electronic entry N° 11500968 in the Companies Registry at the Public Records Office for Lima and Callao (Lima office).



### Fundamental Principles

### 03. FUNDAMENTAL PRINCIPLES

### Vision

To be world-class producers of LNG in the spheres of operational efficiency, environmental and social performance and industrial safety.

### Mission

To be the most efficient world-class LNG producer providing a workplace free from accidents and environmental incidents, which acts as a responsible investor contributing to the local community, supported by the most talented workforce and employing best practices to achieve continual operational improvements whilst maximizing value for its shareholders.



# Our Organization

# 04. OUR ORGANIZATION

#### a. Aims, time-frame and economic group

PERU LNG was created on the 24th of March 2003 to develop, build and operate a liquefied natural gas (LNG) plant. Its infrastructure includes a plant and related installations, port facilities for methane tankers, and a gas pipeline (ISIC 1110). In accordance with the Companies Act. and other applicable legislation, operating period is indefinite.

PERU LNG Company LLC owns 99.5 percent of the company's shares and PERU LNG Partner Company LLC owns 0.5 percent.

The principal activities of the group made up of PERU LNG, PERU LNG Company LLC and PERU LNG Partner Company LLC include the development, design, engineering, procurement, construction, commissioning, financing, ownership, operation and maintenance of a liquid natural gas plant and gas export installations.

The following illustration shows the economic group made up of three companies.



companies register at the Public Records Office for Lima and Callao (Lima aqueducts, mineral products pipelines, multipurpose pipelines, cable ducts office). Its business includes hydrocarbons activities, transport, distribution, and associated installations, and other similar activities treatment, processing, refining, separation, compression, pumping, storage, dispatch, sales, importing or exporting of hydrocarbons and derivatives,

(i) PERU LNG, is registered under electronic entry N° 11500968 in the as well as the operation of liquefaction plants, gas pipelines, oil pipelines,



existing under the laws of the State of Delaware, United States of America, represented by 1 401 435 077 fully subscribed and paid up shares having a is not registered with the RPMV and has no securities registered in any stock nominal value of USD 1.00 each. market.

under the laws of the State of Delaware, United States of America, is not registered with the RPMV and has no securities registered in any stock market.

#### b. Capital

At the close of 2011 the capital of PERU LNG was USD\$ 320 099 952. During this year it received advance payments from the parent company amounting to USD 1 251 335 125.

In June 2012 USD 30 000 000 of advance payments to the parent company were amortized. December of the same year saw a total of USD 1 221 335 125 capitalized, after approval on the 21st of December 2012 at a general meeting As of Dec. 31, 2018 the company's capital remained at USD 1 461 435 077. of shareholders.

As of Dec. 31, 2012 the company's capital amounted to USD 1 541 435 077, represented by 1 541 435 077 fully subscribed and paid up shares having a nominal value of USD 1.00 each.

In 2013 the company's capital was reduced by share buybacks approved at general meetings of shareholders held on the 20th of May and 20th of November 2013; the first valued at USD 40 000 000 and the second at USD 100 000 000. Each one of the share buybacks was registered with Lima Public Records Office, on Aug. 20, 2013 and Feb. 5, 2014 respectively.

As of December, 2014, the company's capital was USD 1 401 435 077, represented by 1 401 435 077 fully subscribed and paid up shares having a nominal value of USD 1.00 each

(ii) PERU LNG Partner Company LLC, a company incorporated and As of Dec. 31, 2015 the company's capital remained at USD 1 401 435 077,

In 2016 the company's capital was increased by the capitalization of new (iii) PERU LNG Company LLC, a company incorporated and existing contributions approved at general meetings of shareholders on May 13 and Aug. 5 2016, amounting to USD 30 000 000 and USD 30 000 000, respectively. Each one of the capital increases was registered at Lima Public Records Office on May 31 2016 and Sept. 2 2016, respectively.

> As of Dec. 31, 2016 the capital of PERU LNG amounted to USD 1 461 435 077, represented 1 461 435 077 fully subscribed and paid up SHARES having a nominal value of USD 1.00 each.

> As of Dec. 31, 2017 the capital of PERU LNG amounted to USD 1 461 435 077, represented 1 461 435 077 fully subscribed and paid up SHARES having a nominal value of USD 1.00 each.

> represented by 1 461 435 077 fully subscribed and paid up shares having a nominal value of USD 1.00 each. PERU LNG Company LLC is the holder, both directly and indirectly, of 100 percent of the shares in PERU LNG.

#### Shareholdings in PERU LNG

Shareholding	Number of shareholders	Shareholders (%)
Less than 1 percent	1	0.5
Between 1 percent and 5 percent	-	-
Between 5 percent and 10 percent	-	-
More than 10 percent	1	99.5
Total	2	100

Source: Own figures.



#### c. The promoters

The promoters are companies with indirect shareholdings in PERU LNG but they do not form part of the economic group. The promoters are:

Hunt Oil Company, with a 50 percent holding; Shell Gas B.V., with 20 percent; SK Innovation Co. Ltd., with 20 percent and Marubeni Corporation with 10 percent.

During the construction stage the promoters provided USD 1 571 435 077, which represents more than 40 percent of the total cost of the project (USD 3 874 597 513).

PERU LNG is operated by Hunt LNG Operating Company. S.A.C. (Hunt LNG), a Peruvian company 100 percent owned by Hunt Oil Company.





#### d. Capital contributions, financing and working capital

#### Capital contributions

During the construction stage the promoters provided USD 1 571 435 077. This contribution represents, proportionally, all the capital necessary to finance the construction cost of the project, in addition to financing from the main lenders and the local bond issues mentioned above.

#### Financing

To finance the project, on the 26th of June 2008 PERU LNG entered into a common terms agreement with lenders for a total sum of USD 2 050 000 00. Those taking part in financing the project were: IADB (USD 800 000 000), US EXIM (USD 400

000 000). IFC (USD 300 000 000). K EXIM (USD 300 000 000) and SACE (USD 250 000 000). This debt is being repaid at a rate of USD 170 MM a year approximately, from 2011 to 2024. As of Dec. 31, 2017, PERU LNG had repaid USD1 000 000.

PERU LNG also obtained some financing from the Peruvian securities market through the first PERU LNG corporate bond program valued at USD 200 000 000 in four simultaneous issues, which was approved by Ruling Nº 064-2009-EF/94.06.3 from the Companies and Securities Supervisory Commission (now the Stock Exchange Regulatory Authority - SMV).

	First (2) issue	Second (3) issue	Third issue	Fourth issue
Value of the issue (thousands of USD)	10 000	40 000	160 000	160 000
Demand (USD thousands)	32 068	53 722	341 799	33 080
Amount placed (thousands of USD)	10 000	30 000	135 325	24 675
Term (years)	2.5	5.0	15.0	15.0
Period of grace	2.0	2.5	5.0	5.0
Coupon	Every six months	Every six months	Every six months	Every six months
Currency	USD	USD	USD	USD
Interest rate	3.44 percent	4.66 percent	Libor (6M) + 3.65625 percent	7.16 percent
Spread <sup>(1)</sup>	1.39 percent	1.22 percent	2.27 percent	2.27 percent

#### PERU LNG First Corporate Bonds Program - issues

(1) Spread vs. bonos globales peruanos.

[2] La primera emisión fue totalmente cancelada en mayo de 2012.

(3) La segunda emisión fue totalmente cancelada en noviembre de 2014.

Fuente: Elaboración propia.

On March 22, 2018, PERU LNG launched an international bond issue amounting As of Dec. 31, 2018, the new balance owed was USD 940 000 000, resulting USD 940 000 000 under Regulation 144A/ S and with a fixed interest rate of 5.375 percent. The bond matures in 2030 and was rated Baa3 (Moody's), BBB-(S&P) and BBB - (Fitch), all stable.

The total value of the bond issue plus approximately USD 280 000 000 that the company had in reserve accounts, was used to refinance the USD 1 221 000 000 balance of the original financing obtained in 2008, including local bonds Consequently, on the 17th of May 2018, in accordance with Ruling Nº 036-2018-SMV/11.1, the Stock Exchange Regulator excluded the whole of the PERU LNG first corporate bond program from the Stock Market Public Registry.

The international bond issue, with its 6-year period of grace, modified repayment of the debt and extended the repayment period from 2024 to 200.

As of March 22, 2018, the date of the refinancing, the total balance of the debt was USD 1 221 078 700. The table below gives details of the debt owed to each institution at that date.

from the international bond issue described above.

In accordance with the six-monthly schedule of payments, the first coupon, amounting to USD 25 262 500, was paid on September 2018. The next coupon payment is programmed for March 2019.

#### Working capital

On March 7, 2018, PERU LNG entered into a Working Capital Financing Agreement with Bank Guarantees, with the Banco de Credito del Peru (BCP) valued at USD 75 000 000 over a three-year period. This line includes letters of guarantee and letters of credit, in addition to short-term disbursements. Capital disbursements have a maximum term of 12 months. As of Dec. 31, 2018, no short-term disbursements from the working capital facility were necessary.



Source: Own figures.







#### e. Contracts with the Peruvian State

On January 12, 2006 the company entered into an investment agreement for the installation, operation and maintenance of a natural gas processing plant (hereinafter the "Investment Agreement"), which included a legal guarantee preventing its terms from being unilaterally modified of amended).

The Agreement was signed by representatives of PERU LNG and the Peruvian State, represented by the Hydrocarbons Bureau (DGH) of the Ministry of Energy and Mining and the Central Reserve Bank of Peru. It establishes, among others terms, the following: (i) PERU LNG will be the sole owner of the LNG plant and related installations (including the gas pipeline) and the LNG produced in the plant, which may be exported freely. (ii) provisions on the investment by PERU LNG to build and operate the LNG plant and related installations and (iii) guarantees for PERU LNG and its shareholders relating to taxation, import duties and foreign currency.

This agreement, approved by Supreme Decree N° 005-2006-EM in accordance with the terms of the Promotion of Investment in Natural Gas Processing Plants Act gives PERU LNG the right to a stable tax and exchange rate regime, as well as other guarantees established in the Act, for a period of 40 years.

Then, on July 5, 2010 the Investment Agreement was modified by public deed in order to include annex D entitled: Agreement to increase and use the carrying capacity of the main pipeline. This agreement was between Transportadora de Gas del Peru S.A. and PERU LNG, according to the provisions of Article 81 of the Regulations for the Carriage of Hydrocarbons through Pipelines, approved by Supreme Decree N° 081-2007-EM.

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#### f. Supply of Natural Gas

#### h. Target markets

In accordance with the supply contract, the plant will receive natural gas from the Camisea fields for 18 years.

August 6, 2014 saw the commencement of a Modified and Re-drafted Natural Gas Sales Contract for Block 88, entered into by PERU LNG and the holders of Block 88, who undertake to provide natural gas to PERU LNG solely for local consumption or when it is to be used or consumed in any other manner in the PERU LNG production process.

A modified and re-drafted contract for the sale of natural gas from Block 56, entered into by PERU LNG and the holders of Block 56 took effect on the same date. This contract permits the holders of Block 56 to acquire gas from the holders of Block 57 for inclusion in their obligation to supply PERU LNG.

With these contractual changes PERU LNG maintains its right to a firm commitment to deliveries of 4.2 trillion cubic feet of gas during the term of the contracts, at a rate of 670 000 million BTU (British Thermal Units) per day, in accordance with daily quantity required (CDR).

#### g. Market growth

The main factors influencing this increase in demand are the replacement of coal by natural gas and local energy policies. In addition, it is hoped that the use of the latest technology, for example: floating regasification and storage units (FRSU) will make a significant contribution to this growth. FRSU enable the regasifying infrastructure to be deployed more quickly and at very competitive prices.

In 2018 there was a recovery in international gas prices compared with 2017. The Henry Hub spot price maintained its level of the previous year, while both the NBP and JKM saw an increase of around 38 percent in the same period. On January 1, 2014, Shell International Trading Middle East (SITME) replaced Repsol Comercializadora de Gas S.A. as the off-taker for PERU LNG, by means of the Third Amended and Restated LNG Sale and Purchase Agreement, entered into on the 31st of December 2013. SITME is part of the Royal Dutch Shell (RDS) group, one of the largest oil companies in the world. It is worth mentioning that Shell's LNG businesses include trading and one of the largest fleets in the industry.

During 2018, the LNG produced by PERU LNG and sold by SITME went mainly to Spain (32 percent), South Korea (25 percent), Japan (11 percent) The Netherlands (10 percent) and other destinations in Europe and Asia (22 percent).

Despite the long distances, PERU LNG remains attractive for European and Asian markets. Monthly sales during 2018 are shown below.



#### Monthly Sales in 2018

Fuente: Elaboración propia.

#### i. The hydrocarbons sector in Peru

PERU LNG's activities are subject to current Peruvian law. The Hydrocarbons Act Nº 26221, which regulates the sector in Peru says that the Peruvian State encourages the development of hydrocarbons on the basis of free competition and free access to economic activities. For this purpose it guarantees the legal stability of contracts, as established in article 62 of the Peruvian Constitution, as well as a stable tax and exchange rate regime.

The Hydrocarbons Act also establishes that exploration and exploitation of hydrocarbons are to be carried out through license and services agreements, as well as other types of contract authorized by the Ministry of Energy and Mines (MEM) and governed by private law. Contracts that have been approved and signed can be modified by written agreement between the parties, subject to approval by Supreme Decree.

the legal framework for the hydrocarbons sector, which regulates and supports the activities of PERU LNG, consists of the following principal legislation:

- Hydrocarbons Act.
- Supreme Decree N° 051-93-EM: Regulations Concerning Hydrocarbons Refining and Processing.
- Law N° 28176: Promotion of Investment in Natural Gas Processing Plants Act.
- Supreme Decree N° 031-2004-EM: Executive Regulations to the Promotion of Investment in Natural Gas Processing Plants Act.
- Supreme Decree N° 032-2004-EM: Regulations Concerning Hydrocarbons Exploration and Extraction.
- Supreme Decree N° 042-2005-EM: Approved Text of the Hvdrocarbons Act.
- Supreme Decree N° 081-2007-EM: Regulation for the Carriage of Hydrocarbons through Pipelines.
- Supreme Decree N° 043-2007-EM: Hydrocarbons Activities Safety Regulations.

The government authorities having a fundamental role in the hydrocarbons sector are the Ministry of Energy and Mining (MEM) and two regulatory authorities: the Supervising Body for Investment in Energy and Mining (OSINERGMIN) and the Environmental Monitoring and Evaluation Authority (OEFA).

The MEM is responsible for designing general policies for the sector and, as the grantor, for awarding concessions. Osinergmin is a functional dependency of the Prime Minister's Office and is responsible for establishing gas transport and distribution tariffs, ensuring compliance by concessionaires with the obligations stipulated in their contracts and applicable legislation, and supervising the service provided to make sure that it meets safety legislation and technical standards.

The OEFA, which reports to the Ministry of the Environment, is responsible for ensuring that individuals and entities both public and private comply with environmental standards, which it does through evaluations, supervision, control, monitoring and penalties in environmental matters.



### Infrastructure to Astonish the World

- Charles and the

# 05. INFRASTRUCTURE TO ASTONISH THE WORLD

#### j. Gas pipeline

The PERU LNG gas pipeline is an impressive piece of infrastructure that marks a milestone in the history of engineering in Peru. It is a high-pressure gas pipeline operating at an average of 1800 psig (124 barg), with a diameter of 34 inches and a carrying capacity of 1290 million cubic ft. per day (MMcmd) of dry natural gas.

The gas pipeline runs for 408 kilometers through some of the world's most varied geography, including mountains and gorges where access is difficult, as well as crossing numerous rivers and the coastal desert. Its highest point is more than 4900 m a. s. l., putting it in the Guinness Book of Records as the highest gas pipeline in the world.

It has 14 shut-off valves for emergencies, six pig launching and receiving trap, one metering station and one pressure regulating station to control the delivery pressure at the coast.

The starting point is at approximately kilometer 211 of the Transportadora del Gas del Peru S.A. (TGP) gas pipeline. in the village of Chiquintirca, Ayacucho Region, in the central highlands. It ends at the PERU LNG natural gas liquefaction plant on the Peruvian coast.

#### k. Liquefaction plant

The PERU LNG plant transforms natural gas into liquid to facilitate transport. It is the first liquefaction plant in South America and was built on 521 hectares of land, 163 kilometers south of Lima on the Southern Pan-American Highway.

The site posed engineering challenges for PERU LNG and therefore required exhaustive and detailed study. Although Pampa Melchorita met certain specific requirements, such as a low level of environmental sensitivity, low population density, soil stability: and stable sea conditions, roads had to be built to reach the shore and optimize the site's altitude of 135 m a. s. l. for the construction of the port facility.

The liquefaction plant has an installed capacity of 4.45 million tons per year (MMtpy) and processes approximately 626 million cubic feet per day (MMcfd), which covers the 4.2 MMtpy of LNG established in the contract.

The industrial process begins with the reception of dry natural gas from the Block 56 and 57 fields in Camisea and the removal of the liquids it contains. The natural gas is first measured and its pressure controlled, and which carbon dioxide (CO2) is removed by the acid gas removal unit.

Next, the gas is dried in molecular sieves and passes through an activated charcoal mercury absorption cell before liquefaction. In the final stage, the natural gas is cooled with a propane refrigerant and liquefied in the main cryogenic heat exchanger. The LNG is then stored before shipment on board methane tankers in two tanks of 130 000 cubic meters (m3) each.

It should be noted that the plant is self-sufficient; it produces its own electricity and other services. It has three generators, one control center, offices, warehouses, workshops, training facilities and housing.

#### l. Port facility

The PERU LNG port facility is very well equipped and can accept vessels with a full load capacity of between 90 000 and 173 000 m3. It consists of a trestle jetty 1380 m long with a LNG loading platform at the end, equipped with four loading arms (three for loading LNG and one for return vapor). It also has a berth for methane tankers consisting of 4 dolphins with fenders to protect both vessels and the jetty, as well as 6 dolphins fitted with triple mooring hooks.

The port facility is protected from the swell by a breakwater 800 meters long built parallel to the coast and 350 meters off the loading platform. It has 3 navigable channels that are dredged annually to maintain the required depth. 4 tugs with a bollard pull of 80 tons are available to assist with the berthing and unberthing of methane tankers.

As well as its marine infrastructure, the PERU LNG terminal is equipped with the latest generation of systems to ensure that loading operations are programmed and carried out safely. The principal items of equipment are 2 weather buoys with wave sensors located inside and outside of the breakwater, laser sensors that measure the speed and angle of approach of vessels to the jetty and a Pilot Portable Unit system to assist in approaching and leaving the facility even in poor visibility.





Since 2015 the PERU LNG terminal has used bespoke software that provides a 14-day forecast of 5 important aspects: sea state, wind, visibility, tide and other characteristics. Furthermore, since the end of 2016 this forecast has included a tool for predicting the movement of berthed vessels and the load on their mooring lines. This system makes the PERU LNG port facility a pioneer in the use of forecasting technology.

In 2017 the port facility ISO 9001:2008 certification was renewed for the quality management of its LNG shipping systems and the provision of basic port services such as berthing, unberthing, pilotage and towage. This certification was awarded by TÜV Rheinland and at the same tome the Peruvian Ports Authority reaffirmed the company's International Ship and Port Facility Security (ISPS) certification, as well as its Special Port Facility (IPE) and Port Security certificates.

PERU LNG's port facility received the Maritime Award of the Americas from the Secretariat of the Inter-American Committee on Ports (S/CIP) of the Organization of American States (OAS) in 2016, in the following category: Sustainable Environmental Management of Waste.

#### m. Road tanker liquified gas loading terminal

In March 2018 the LNG road tanker loading terminal (which is inside the PERU LNG plant) was finally given permission by Osinergmin to begin operating (before then it was loading trucks as part of the test phase). Commercial operation commenced on the 9th of July, after the contractual requirements the official start had been met.

The terminal fills road tankers that transport LNG to regasification plants in the north and south west of the country operated by two Shell LNG concessionaires, Quavii and Naturgy, who supply the following cities: Cajamarca, Lambayeque, Chiclayo, Pacasmayo, Trujillo, Chimbote and Huaraz in the north and Arequipa, Moguegua, Ilo and Tacna in the south, respectively.

Construction of the road tanked loading terminal included installing: a control center, a depressurization station, pipelines for transferring the gas from the plant, safety systems, electrical and control systems, communications and CCTV, among others.

During 2018 a total of 667 trucks were loaded, equivalent to 780,500 MMBtu.





# Working with Responsibility and Commitment

### WORKING WITH RESPONSIBILITY **AND COMMITMENT**

The liquefaction plant started up in June 2010 and is one of the most important **Gas pipeline** projects ever developed in Peru. The PERU LNG plant is the first in South America producing LNG gas, is supplied by a gas pipeline 408 kilometers long During 2018 PERU LNG sent a total of 202 037 MMcf to the LNG plant and 107 464 carrying natural gas from Ayacucho, through Huancavelica, Ica and Lima.

#### n. Operation to high quality standards

PERU LNG operates to the highest industry standards, not only to guarantee strict compliance with Peruvian and international legislation, but also to achieve its vision and mission as a world-class organization, efficient technically, operationally and economically as well as being environmentally. It is worth noting that expansions carried out by TGP in 2016 increased the and socially responsible. During 2018, PERU LNG carried an average of 847 MMcfd of natural gas through its pipeline.

MMcf to the domestic market, in accordance with the Agreement to Expand and Use the Carrying Capacity of the Main Pipeline.

As far as Transportadora de Gas del Peru (TGP) was concerned, the volume of gas carried by the PERU LNG gas pipeline for the local market remained stable at an average of 300 MMcfd with peaks of up to 500 MMcfd.

transport capacity of the system from 1150 to 1540 MMcfd in the jungle zone. The capacity increase provided PERU LNG with permanent additional volumes of gas and flexibility in the pipeline system



#### Volumes carried in 2018

Fuente: Elaboración propia.

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#### Liquefaction plant and port facility

The performance efficiency of the plant during 2018 was 92 percent. 198 TBtu of LNG was produced, compared with 214 TBtu in 2017, which represents an 8 percent reduction, due mainly to the major maintenance carried out on the plant in July and August and force majeure events in February and October.



#### Volumes produced in 2018

Fuente: Elaboración propia

#### LNG SHIPMENTS

57 methane tankers berthed at PERU LNG's port facility in 2018. These tankers the facility that year. were loaded with 196.1 TBtu of LNG, representing a 11 percent drop in the number of ships and a 8 percent fall in the volume carried compared with the previous year, when 64 vessels were loaded with 213.9 TBtu. In 2016 70 (32 percent), 14 to South Korea (25 percent), 6 to Japan (11 percent), 6 to The vessels were loaded (225.1 TBtu). In 2015 56 vessels were loaded (187.8 TBtu); in 2014, 60 vessels (214.4 TBtu); in 2013, 57 vessels (222.4 TBtu); in 2012, 53 vessels (203.6 TBtu) and in 2011, 55 vessels (209.2 TBtu). It should be noted

that operations commenced in June 2010, and therefore only 23 vessels used

The destinations of the 57 methane tankers in 2018 were as follows: 19 to Spain Netherlands (10 percent), 3 to England (6 percent), 3 to France (6 percent), 2 to Australia (3 percent), 1 to Mexico (2 percent), 1 to China (2 percent), 1 to Taiwan (2 percent) and 1 to Malta (1 percent).



#### Vessels loaded in 2018 - Volume in MMBtu and in m3

Month	Vessels	MMBtu	m3
January	5	17,429,580	751,400
February	2	6,645,169	286,251
March	5	16,801,575	724,064
April	6	21,356,601	920,439
May	5	16,025,710	690,302
June	5	18,538,426	798,894
July	6	20,116,193	867,227
August	2	6,587,322	283,703
September	4	13,799,628	594,666
October	5	17,052,410	734,844
November	6	20,290,030	874,706
December	6	21,494,861	926,698
Total	57	196,137,505	8,453,196



Fuente: Elaboración propia.

#### Vessels loaded and quantity of LNG (TBtu) by destination



SITME was the company responsible for purchasing, carrying and selling the LNG produced in the plant during 2018. LNG is sold on a FOB basis at a contractual sale price indexed to natural gas prices at the destination of the shipment.



#### o. Human resources

The company's workforce is as follows.

Administrative	December 2018		TOTAL	
	Temporary	Permanent	IUIAL	
Senior staff	-	4	4	
Employees	1	10	11	
Total	1	14	15	

#### Training during the plant shutdown

In 2018 we performed major maintenance on our plant, which was essential to ensure the continuity and integrity of our operations, installations and equipment. This was a considerable challenge and the preparations included planning the training necessary to ensure that our staff had the necessary technical and safety expertise needed to prevent events that might cause injury and also to complete the work in the time allowed for the plant shutdown.

Planning implied drawing up a training plan, validation of the participants' technical skills and ensuring the availability of the installations, equipment and materials. All of these efforts took place within a framework of identification, evaluation and leadership in the safety of people and processes. The courses concentrated on compliance with international standards and regulations and provided 626 hours of effective training for a total of 243 collaborators.

A training plan was also prepared for all contractors' personnel who were involved in any activity or work during the plant shutdown. The plan included training prior to the start of any work, as well as validation of the knowledge acquired during operation. 57 contracting companies took part and a total of 1498 people received 8614 hours of training over a period of 3 months.

#### Strengthening leadership and a culture of accident prevention

During 2018 work continued with the company's leaders to strengthen and align skills with the different leadership functions. Work with the leaders took the form of workshops with their peers and team members, placing special emphasis on reinforcing a culture of safety and prevention in all of our operations.

Workshops for collaborators and team leaders were organized, to strengthen the human factor in the safety of all of our processes and operations. These workshops used special tools and techniques to ensure that all participants understood the influence of the human factor and its relationship and importance in all of our operations.

#### p. PERU LNG administration

In the month of September 2018, the company decided to move its administrative offices to the PAL 400 building on Ca. Las Palmeras 435, in the business district.

These offices are designed to provide open and comfortable workplaces focused on facilitating communication, team work and creativity.

The company's senior management personnel are:

Position	Name
General Manager	María Julia Aybar
Director of Corporate Affairs and Communications	David Lemor
General Counsel	Solange Cuadros
Commercial and Planning Manager	Jaime Risco
Planning Manager	Wei Wong

#### María Julia Aybar

Mrs Aybar studied at the Catholic University of Peru's Faculty of Law and pursued postgraduate at the University of Lima. She taught specialist courses hydrocarbons sector legislation, including regulations applicable to natural gas. She started working in the oil and gas sector in the legal department of PeruPetro (the government body that administers oil exploration and Counsel of PERU LNG. extraction in Peru). She worked as an associate for nearly ten years and later as a partner in Estudio Muñiz law firm, where her experience in different Jaime Risco aspects of the hydrocarbons business proved valuable. She was an adviser to the companies involved in the Camisea Project in all its phases: extraction, Studied Industrial Engineering in the Faculty of Science and Engineering of transport and distribution, and financing. She was General Counsel of PERU LNG from February 2006 to December 2016. From the 1st of January 2017 she has occupied the post of CEO.

#### David Lemor

Production portfolio (February 2005 – July 2006) and executive vice president of the National Competitiveness Council. He was later appointed special representative of the Government of Peru in Washington, where his task was to Wei Wong obtain approval of the between Peru - USA Free Trade Agreement. Furthermore, from 2007 to 2008 he was Executive Director of ProInversion. At present he is a professor at San Ignacio de Loyola University and Ricardo Palma University and a director of the National Manufacturing Society. In PERU LNG he is the Director of Corporate Affairs and Communications.

#### Solange Cuadros

postgraduate studies at Duke University (USA.). She has more than ten years of experience in energy and corporate law and has taken various specialist courses in hydrocarbons and electricity. She began in the energy and mining department of Estudio Muñiz law firm before moving to the Peruvian

ombudsman's office. From 2008 to 2012 she worked on the PERU LNG legal team and from 2013 to 2015 was Legal Manager and Head of Regulatory and Legal Affairs for the GCZ Energía group. In 2016 she took on the same responsibility in EDC Peru Holdings and, since January 2017, has been General

the Catholic University of Peru before obtaining an MBA from the University of Virginia (USA). He worked in the Camisea project commercial department of Pluspetrol as an analyst from 2006 to 2010. He was financial manager in the planning department of Microsoft's sales, marketing and services group.

He joined PERU LNG in 2014 and held the post of Planning Manager from Before joining PERU LNG Mr Lemor was a Minister of State holding the February 2016 to June 30 2017. He has been Commercial and Planning Manager since July 1 2017.

Wei Wong studied at Baylor University, where he obtained an undergraduate degree in business administration and a master's in accountancy. He began his career with ConocoPhillips as a financial analyst and then joined Hunt Oil in the corporate strategic planning department. In 2015 he obtained a master's degree in business administration from the University of Texas. He then worked for the Hunt Oil business unit in the Middle East, during the initial stage of a production and company development project in Kurdistan and Yemen LNG. He Studied at the Catholic University of Peru's Faculty of Law and pursued is a qualified public accountant and internal auditor and has held the position of Planning Manager in PERU LNG since July 1 2017.

#### q. Judicial and administrative procedures and arbitration

#### **Contested administrative procedures**

At the close of 2018 the status of the court case brought in March 2011 by PERU LNG against Osinergmin arising from fines imposed by the latter (case 01130-2011), was as follows: Ruling N° 31 issued by the Fourteenth Court for Contested Administrative Matters of Lima, contained an initial ruling dismissing the claim. Thus, on the 28th of August PERU LNG appealed against this decision and ruling N° 35, dated the 16th of October 2018, admitted the appeal by PERU LNG. To date the case has not been heard by the higher court.

In the administrative claim, PERU LNG questions the validity and demand the annulment of rulings N° 004458 and 004666, as well as rulings N° 030-2010-OS/TASTEM-S2 and N° 007-2010-OS/TASTEM-S2. These imposed fines of approximately USD 912 635 for an alleged non-compliance with environmental management commitments.

#### Arbitration proceedings

On Oct. 6 2016, after the parties had agreed the terms of reference applicable to the proceedings, the arbitration panel consisting of two arbitrators and one president, established the procedural timetable that will govern the arbitration. These proceedings took place before the International Arbitration Panel of the International Chamber of Commerce between PERU LNG and companies Pluspetrol Peru Corporation S.A., Pluspetrol Lote 56 S.A., Tecpetrol Bloque 56 S.A.C. and Sonatrach Peru Corporation S.A.C. (hereinafter "the companies"). In this arbitration process PERU LNG is questioning invoices issued by the above companies in July and August 2015 for alleged additional payments for gas sold in 2010 and 2011.





#### r. Our commitment to the community

PERU LNG is committed to furthering the development of people living throughout its direct area of influence in Ayacucho, Huancavelica, Ica and Lima regions and for that purpose it has identified three core areas for social investment in which it is concentrating its community outreach efforts.

- Strengthening skills
- Education
- Health

These core areas are not only aligned with the sustainable development aims promoted by the United Nations, but also with the public policy of the Peruvian Government. To ensure the success of its social investment projects, PERU LNG sought strategic alliances with public and private organizations with wide experience in the field.

These projects to improve the productive skills of people living near to the gas pipeline and plant enable PERU LNG to build a relationship based on confidence and respect with the communities in its direct area of influence.

The company's social investment projects are designed to promote the sustainable development of local communities, and are implemented in coordination with the communities themselves, in a process of permanent and transparent dialog. A number of projects were implemented during 2018, including those described below.



#### i. Training program for public investment management

This program, which started in March 2012, helps to strengthen the abilities of the technical members of municipal governments who are responsible for drawing up and implementing strategic public investment projects to meet the basic needs of the population. This program provides advice to municipal officials on the preparation of technical designs and strategies for obtaining public funds.

Advisers from Universidad del Pacífico assisted the municipal officials to produce profile studies, answered their queries on public governance and facilitated contact with government entities responsible for promoting public investment, especially with the Ministry of Finance. Through this prog contribute to sustai

This program has helped to strengthen relationships with the rural communities in the area of influence of the PERU LNG gas pipeline, through construction work carried out by the municipal authorities. This enabled leverage of S/ It has enabled 61.8 million soles to be granted fro condition funds for social projects to meet the basic needs of the population. This is a clear example of how local governments can be helped to obtain public funds, making a significant contribution to sustainable development of communities in their areas of influence.

Through this program PERU LNG has shown world-class investment can contribute to sustainable development of communities in its areas of influence, making it a benchmark and example of a socially responsible company in the hydrocarbons sector.

Thanks to the contribution by PERU LNG, financing for four large-scale projects was obtained in 2018: valued at S/. 61.8 million soles

Municipality of Acocro

Improvements to the irrigation system in Chulluhuaycco, consisting of the construction of a dam, water intake, culvert and open canal, which will benefit 445 families and irrigate 817 hectares. [SNIP code N° 247815].

#### Investment

S/ 28,995,859.00



Improvements to health services at the healthcare facilities in Acocro, ii. Allin Ruray - Good Work Ccollcca and Pampamarca. [SNIP Code: 284648]

Investment	
S/ 5,149,328.00	

• Municipality of Vinchos

Improvements to primary education in the schools of Cayramayo, Putaqa and Rosapampa in the district of Vinchos, Huamanga, Ayacucho. [SNIP Code 334269]

#### Investment

S/ 12,376.397.00

Improvements to the potable water supply and drains in communities in the district of Vinchos, Huamanga, Ayacucho. [SNIP Code: 341275]

#### Investment

#### S/ 15,553,000.00

Furthermore, 2018 saw the start of the following project:

Municipality of Vinchos

Improvements to secondary education at Cayramayo rural school in the district of Vinchos [SNIP Code N°313879]

#### Total cost of project

S/ 5,200,120.00

One of the most difficult challenges facing PERU LNG was to find sustainable projects that would improve the quality of life for people living in extreme poverty in the high-altitude parts of the gas pipeline route. These are subsistence communities living basically from the rearing of alpaca.

The Allin Ruray (Good Work) program implemented as part of a strategic alliance with PROSYNERGY, covers the mining annexes of Corral, Cayramayo and Huayraccasa in the community of Paccha, more than 4000 meters above sea level in Ayacucho region.

The purpose of the program is to train families in alpaca-rearing communities in PERU LNG's direct area of influence in the techniques of fiber processing and transformation, to enable them to significantly increase their incomes by selling products with a high added value directly to the market rather than selling basic fiber to an intermediary.

Thus, the fiber is processed and transformed into tops, felt, yarn and handicrafts.

The virtue of this project is that not only does it help to improve the economy of these communities, but it is also highly inclusive, encouraging the employment of women who are empowered and can obtain their own incomes; it also encourages the employment of older people, who are often marginalized, and the young of both sexes in spinning, dying, weaving, embroidering and the production of handicrafts to add value to the alpaca fiber.

The success of this program is demonstrated by the fact that these communities have received their first order from Germany.

#### iii. Improvements in reading comprehension

PERU LNG understands that education is a component fundamental of development for the country and for that reason is committed to promoting education.

"Leer es Estar Adelante" (Read to Get Ahead) is a project started in 2014 in partnership with the BBVA Banco Continental Foundation. The purpose of the program is to improve reading comprehension of students in the third, fourth, fifth and sixth grades of public primary schools. In 2018, the program was implemented in 29 public schools in Huamanga and La Mar in Ayacucho region and 6 schools in Huaytara, Huancavelica. In total, 875 students and 74 teachers benefited from the project.

The program seeks to improve levels of reading comprehension using books for students and teaching guides for educators. Classroom support for teachers to improve their performance, as well as teacher training in accordance with guidelines being implemented by MINEDU in its teaching support and evaluation program.









#### iv. Working together to reduce anemia

Anemia affects children's health and development and creates disadvantages and inequality in society that are unrecoverable. Given this reality, PERU LNG has forged an alliance with Caritas del Peru to implement a program called in the classroom by previously-trained teachers. Training was also given to "Working together to reduce anemia".

The fight against anemia is Peruvian government policy and PERU LNG is part of it. The program has been developed to improve the control and prevention of anemia in communities and schools.

The aim is to help to improve the health of pre-school children and students in the provinces of Huamanga and Cangallo, benefiting 14 nursery and 16 primary schools having a total of 740 students in 17 villages in Huamanga. The program involves action to control

hemoglobin levels, the elimination of parasites from children and their immediate families and the provision of ferrous sulfate directly to children teachers, families and local authorities in the control and prevention of anemia.

In order to make the program sustainable, it was implemented jointly with the Regional Education Department, UGEL and the Regional Health Department. These activities seek to improve teachers' and parents' ability to prevent and treat anemia.

In 2018 the level of anemia among nursery school children was reduced from 38 percent to 23 percent and from 17 percent to 14 percent among primary school students.

#### v. Training in artisanal fishing

PERU LNG is committed to the economic well-being of the artisanal fishermen in its areas of influence in Chincha and Cañete. In 2018, therefore, it signed an agreement with the Peruvian Merchant Navy Academy (ENAMM) to implement a training program at the academy in Callao. This training aims to encourage formalization and strengthen the skills of artisanal fishermen.

Each course lasted two weeks, with students living in the academy and receiving theoretical and practical training in fishing techniques. After passing the course they are given a credential issued by the Peruvian Navy, accrediting them as artisanal fishermen. This credential enables them to apply for formal jobs in the fishing industry and also to obtain financing.

Training courses held in 2018 enabled FONDEPES to certify 105 fishermen from Chincha and Cañete, who obtained their credentials as artisanal fishermen from the Peruvian Navy.







#### vi. Driver license training program

The driver license training program system aims to improve driving and personal skills in order to open further employment opportunities for artisanal fishermen in PERU LNG's area of influence and thus help to improve the socioeconomic conditions of their families. The program consists of instruction and compliance with the requirements, tests and other procedures of the Ministry of Transport and Communications and the Regional Government of Ica, enabling students to sit the examination for category A1 and A2 driving licenses with an optimal level of instruction and practice.

In 2018 the program has enabled beneficiaries to:

- Take new jobs as drivers on municipal services.
- Obtain financing to acquire or lease vehicles for use as taxis.
- Join or create taxi companies.
- This provides an alternative to artisanal fishing when it is affected by adverse weather.

#### vii. Impacting Lives program - table tennis

The driver license training program system aims to improve driving and personal skills in order to open further employment opportunities for artisanal fishermen in PERU LNG's area of influence and thus help to improve the socio-

By its nature and speed, table tennis stimulates coordination and reflexes, thus developing attention and concentration, which improves the academic performance of its players.

The program also trains physical education teachers in the game's techniques and has built two concrete tables in each school involved.

The general aim of this program is to promote table tennis on a large scale as part of the integral development of children living in PERU LNG's area of influence, providing them with educational tools to stimulate their interest and develop their physical and motor characteristics.



#### s. Health, safety and the environment

PERU LNG has developed and applies a series of practices and requirements at all its installations aimed at protecting its contractors, consultants and visitors, as well as guaranteeing the safety and health of its employees, protecting the environment and preventing impacts on the communities in the direct area of influence of the gas pipeline, liquefaction plant and port facility.

In line with its policy of responsibility and commitment to conservation of the environment and natural resources, PERU LNG carries out its activities to the highest industry standards, and guarantees strict compliance with Peruvian and international legislation. This is demonstrated by the fact that its Integrated Management System (IMS) holds ISO 14001 and OHSAS 18001 certification, having been externally audited every year by TÜV Rheinland.

This is how we verify that the environmental and safety management systems are properly implemented throughout PERU LNG's operations from KP 0 (the starting point) of the gas pipeline at Chiquintirca, to the LNG plant and the port facility.

The scope of the certification covers all activities, processes and premises of PERU LNG, including the offices. The IMS is designed to create safe working conditions for employees and contractors of PERU LNG and, furthermore, to establish a commitment to serve as social and environmental guardians for the communities in which it operates.







#### i. Environmental management in the plant

#### Responsible waste management

Waste management on the pipeline and plant (2696.35 tons in 2018) prioritizes reduction, recycling and reuse. In the plant, composting food residues has reduced the amount of this type of waste that is disposed of in landfills.

The compost is used to fertilize the parks and gardens in adjacent areas. using env Recycled waste included paper and cardboard, timber, plastic, metal and used authority. oil.

#### Responsible water management

PERU LNG does not use water from rivers or local wells and does not generate impacts on water sources in the zone. it creates potable water from seawater using a reverse osmosis plant. It thus reduces any possible effect on the environmental to a minimum.

With this sustainable management of water resources, PERU LNG carries out its activities in harmony with the environment and those living in its direct area of influence.

As an environmental measure, PERU LNG treats all water used in the camps and plant offices (43 252 m3) in a waste water treatment plant using activated sludge; the waste water is not discharged into the sea, but is used to irrigate green areas and for dust control on the plant's internal roadways. Effluent from this plant is monitored frequently and compared with established environmental standards using environmental management instruments approved by the competent authority.

#### Environmental and safety standard assurance inspections

To guarantee compliance with quality, occupational safety and environmental protection standards, during 2018 the PERU LNG plant installations were inspected 158 times, producing 328 observations contributing to the process of continual improvement.

The resulting actions are both corrective and preventive. The aim is to guarantee that the risks and potential impacts of the operations are managed opportunely and in accordance with PERU LNG standards and procedures, as well as to contribute to the continual improvement process.

#### Guaranteeing compliance with the highest industry standards

PERU LNG has three environmental monitoring programs: (1) Discharges and emissions, (2) water bodies environmental quality monitoring and (3) monitoring of biodiversity, which applies to the whole of PERU LNG's operations.

The environmental monitoring programs gather information on the effects that PERU LNG's operations may have on the environment, as well as mitigating any environmental effects and preserving the nature of its areas of influence. The monitoring results obtained during 2018 are shown below:

#### • Monitoring discharges and emissions

Monitoring	Number of samples taken annually	Results
1 annual emissions sample from 8 chimneys.	48	All meet the standards.
12 effluent samples from 4 monitoring points.	852	All meet the standards.
57 vessels provided samples (water ballast).	228	All meet the standards.
2 measurements of environmental noise from 10 monitoring points.	40	All meet the standards.
2 measurements of environmental noise from 43 monitoring points at 17 stations on the pipeline route	86	All meet the standards.



#### Environmental monitoring of receiving water bodies

Monitoring	Monitoring Number of samples taken annually	Results
4 air quality samples from 5 monitoring points.	220	All meet the standards.
4 samples of sea water plankton, 2 sampling points.	16	No invasive or new species were found.
4 sea water quality samples, 44 sampling points.	4576	The resulting values are similar to those reported in the environmental baselines of 2002 and 2005.
2 marine sediment samples, 14 monitoring points.	672	The resulting values are similar to those reported in the environmental baselines of 2002 and 2005.
5 assessments a year at 13 points where the right of way crosses rivers.	65 monitoring actions	Stability was assessed and no evidence of erosion was found.

In addition to these controls two participatory campaigns monitoring the marine environment were carried out with representatives of local fishermen's organizations and the authorities, as well as coastal morphology surveys (8 km of beaches evaluated in each one) and two more topographical feature surveys.

Furthermore, seeking to optimize internal resources while maintaining the quality of our operations and complying with legislation, in October 2018 a technical report on the optimization and improvement of physical and chemical monitoring in the plant was approved. This new environmental tool will reduce the cost of monitoring and increase its efficiency.

#### Monitoring bio-restoration work

PERU LNG carries out continual bio-restoration work to restore the natural conditions of areas that have been disturbed by the construction of the gas pipeline.

The 2018 bio-restoration campaign addressed 7.6 Km of the RoW (right of way) by transferring native species and improvement the soil through manuring. Furthermore, fences have been erected to enclose areas in which pasture can recover from overgrazing on the right of way.

This work has re-established the native vegetation over most of the distance disturbed during construction.

#### • Biodiversity Monitoring and Assessment Program (BMAP)

This program was conceived by PERU LNG together with the Center for Conservation, Education and Sustainability (CCSE) of the Smithsonian Conservation Biology Institute (SCBI), with the aim of preserving biodiversity during project construction and the operation of the gas pipeline, the plant and the port facility.

The BMAP uses biological evaluations and monitoring to determine the condition of species, their habitats and changes over time. This information was used to draw up guidelines so that PERU LNG can take decisions that help to mitigate any impact on biodiversity.

In 2018 a number of monitoring campaigns were implemented in accordance with the annual plan in the BMAP, which includes monitoring of the following research protocols:







- Lizards
- Vegetation and wetlands
- Bio-restoration
- Dry forest
- Marine benthos
- Sea fish
- Sea birds

#### • Participatory Socio-Environmental Monitoring Program (PMSAP)

The Participatory Socio-Environmental Monitoring Program (PMSAP) guarantees active participation by the communities and settlements in PERU LNG's direct area of influence. The communities nominate their own representatives (monitors), who are responsible for supervising and monitoring possible social and environmental impacts arising from the operation of the gas pipeline. If the monitors find anything, they are recorded and reported to their communities and to the company. When PERU LNG receives such reports, it analyzes them and takes prompt corrective action, thus enabling its operations to continually improve.

10 evaluations in the field were carried out in 2018 and 47 findings reported. Of these, 39 cases were closed appropriately and the rest were scheduled to be addressed during the maintenance programs.

#### Audits and relationship with the State

Audits by the environmental authorities help to maintain high operating standards and to confirm compliance with legal requirements. In 2018 the Environmental Evaluation and Supervision Authority (OEFA) carried out two audits of our operations (one of the plant and one of the pipeline). The National Water Authority (ANA) also performed an audit of the plant. In neither case was any observation made.

#### ii. Occupational health and industrial hygiene

#### Industrial hygiene program

In accordance with the Annual Hygiene Monitoring Program, in 2018 we continued to monitor exposure to occupational hazards, as shown in the following table.

Occupational hazard	Location	Total monitoring
		points / areas
Chemical		
Inhalable dust	Tanks - plant	1
Silica	Tanks - plant	1
Heavy metals	Pond R1 - plant	3
Volatile organic components	Paint	1
Ergonomics		
Lifting, posture repetitive movements, manual load handling	Production, Mechanical and Control Panel (CCR and TLF)	10
Physical		
Noise (sonometry)	PR compressor area	47
Noise (sonometry)	Lima offices	10
Noise (sonometry)	Plant operators, electricians instrument technicians, mechanics	8
Vibration	Hand - arm Fabshop	2
Lighting	Lima offices	130
Relative humidity	Lima offices	4

#### **Biological agents**

• Potable water: The obligatory control parameters were monitored on a daily basis, with monthly monitoring of the additional parameters applicable to the quality of water from the reverse osmosis plant and to potable water treatment.

• Mess rooms: An accredited external laboratory carried out monthly monitoring of biological agents on inert surfaces and the hands of people working with food prepared in the plant.



#### Emergency response preparation:

In 2018 first aid training was given to plant personnel (233 people, or 96 percent) and pipeline personnel (25 or 89 percent). Training is also provided for the emergency brigades (Blue Jackets) with participation by all of the Lima and plant teams.

The plant medical center give monthly training to the personnel on treating the most frequent pathologies related to the operation.

Emergency drills are carried out every month in the medical center in order to cope with emergencies in the plant.

#### Occupational health control & vigilance programs

PERU LNG uses the following tools to monitor the health of its own employees and those of contractors:

• Occupational medical examinations: 203 regular occupational medical examinations were performed in 2018 on plant and pipeline operations personnel, together with examinations of new employees and retirees and those generated by job changes and employees rejoining the workforce, in accordance with Peruvian law. No occupational illnesses were reported during this year. The results of the occupational medical examinations are reported confidentially to the employees.

• Health control and vigilance of contractors and visitors: PERU LNG uses occupational health certificates (CAMO) to ensure that its contractors are monitoring the health of their employees and that they meet PERU LNG's medical standards for those working in its installations. A new platform for controlling access by personnel to the PERU LNG plant and pipeline was introduced in 2018, which optimized the process of monitoring the health of contractors and visitors.



• Time lost through illness: Time lost through sickness: every month checks are carried out on workforce absenteeism, to produce an epidemiological indicator of employee health that can be used to design intervention programs for at-risk groups to prevent illness and injury and reduce the rate of absenteeism. 154 cases occurred in 2018, causing 907 day lost through non-work-related illnesses. The main cause of absenteeism was musculoskeletal disorders (34 cases - 321 days) followed by traumatism not related to work (7 cases - 93 days).

• **Medical treatment:** PERU LNG has a medical center at the plant, to treat urgent cases and emergencies affecting employees, contractors and visitors. 2056 cases were treated in 2018, 4 cases required emergency transfer by ambulance to Lima; all of them recovered.

#### Illness prevention programs

The following programs and activities were carried out in 2018, aimed at maintaining and improving working conditions and preventing and monitoring risks to employees' health:

• **Respiratory protection program:** seeks to protect employees from the risk particle inhalation, through correct use of personal protection equipment (PPE). Respirator fitting is carried out at the plant medical center. 282 respiratory function and adjustment tests were carried out in 2018.

• Sun protection program: Implementation began in January 2018. Information, talks and sunblock were given to employees in order to encourage good protection practices both at work and at home



#### t. Communications

In 2018 the Corporate Affairs and Communications Department held a series of events and campaigns aimed at strengthening relations between PERU LNG and the local population and authorities, especially in areas adjacent to the gas pipeline and PERU LNG's plant.

#### i. Conferences and events

April 2018 saw a series of conferences start with a talk entitled: "How to Treat Depression in Children and Adolescents", given by renowned psychologist Roberto Lerner, who visited the towns of Chincha, Cañete and Huamanga. Dr Lerner emphasized the importance of communicating with children. He said that you should not only talk to them but that it is essential to listen, so that they will then tell their parents what is happening, especially in situations that imply some kind of risk.

In September, a conference entitled: "How to Combat Anemia and Malnutrition in Children", was held in Chincha, Cañete and Huamanga by well-known physician Dr Perez-Albela. Dr Perez-Albela said that one of the main causes of anemia is a lack of protein in the blood. He shared information on the importance of good nutrition with dozens of parents.

During the conference he drew a distinction between eating merely to survive and nutrition, consisting of taking advantage of nutrients in food to live and develop better.

Both events, attended by more than 1670 people in Chincha, Cañete and Huamanga, made a contribution to personal and local welfare and development, its purpose being to inform and stimulate debate on matters of interest to local people.

Furthermore, as part of the celebrations for the Day of the Child, four shows were organized, attended by more than 3000 children and adults from Chincha, Cañete and Huamanga. The principal attraction at each was a theater

production for children entitled "The Boastful Butterfly"; children and adults enjoyed the adventures of the little butterfly in a colorful setting with plenty of candy floss, balloons and coloring books.

With these events PERU LNG seeks to develop children's imagination and creativity and provide them with basic tools to strengthen their abilities.

#### ii. Night of the Entrepreneurs

Three events for entrepreneurs were held in 2018, attended by more than 1700 people, in the cities of Chincha, Cañete and Huamanga. Local entrepreneurs were motivated by practical advice and real-life examples.

In a dynamic format, exhibitors concentrated on providing tools for innovation, the design of sustainable businesses and creative thinking, leaving a clear message to those present on the importance of business innovation and how this creates growth.

These encounters were part of a series of activities designed by PERU LNG to plant. encourage innovation among entrepreneurs in its area of influence.

#### u. Strengthening Peruvian talent

PERU LNG helps to train new leaders by stimulating and strengthening the skills of talented young people. As part of this work the company signed an agreement with the National Engineering University (UNI) to grant an annual PERU LNG Scholarship. This scholarship will provide financial assistance to enable young students to continue their professional training at internationally recognized academic institutions.

In 2018 UNI student Paolo Mogollon Acosta was chosen to study for a year at the University of Oklahoma (USA), one of the world's premier specialist institutions in the field of oil and gas. When he finishes his course Paolo will be able to carry out his pre-graduation work experience at PERU LNG and then to join the company.

2018 was the seventh year of the program and the evaluation process is backed by the Commission for Student Exchanges between Peru and the United States of America. (the Fulbright Commission).

#### v. Voluntary Service

During 2018 the Voluntary Service Team, made up of workers from different departments and places where the company has a presence, continued to support Hogar de las Bienaventuranzas, directed by Father Omar Sánchez through contributions deducted from their wages and salaries.

A school campaign also took place, in which 200 student packs were assembled for Fe y Alegría school in Villa Maria del Triunfo thanks to the collaboration of the entire workforce.

The funds necessary for the work in support of these institutions were obtained by voluntary activities, such as the sake of cakes in the Lima offices and in the plant.

July saw our Cold Weather Campaign in which our personnel donated 38 boxes of thermal blankets, warm clothing and 120 pairs of socks and boots for the snow and rain, which were taken to the community of Caminaca - Puno by NGO Juguete Pendiente, directed by Vanessa Vasquez.

In November the task of sowing grass seed was completed at I.E.P. N° 0051 Jose Faustino Sánchez Carrión, a school in Carapongo - Chosica. The company's employees and their families took part. On the same day, a film was shown in the morning for the school's youngest pupils.

These activities reinforced the social commitment the company's workers, who continually support the various activities proposed by the volunteers to generate funds and to provide help for the different institutions that need it.



### Financial Information

# 07. FINANCIAL INFORMATION

#### w. Executive summary for 2018

During 2018 the company sold a total of 57 shipments (196.1 TBtu), 17.7 TBtu less than the 213.8 TBtu (64 shipments) sold in 2017. External factors such as the incident affecting TGP's pipeline in February, an emergency stoppage at Malvinas in October, unusually heavy seas that affected the availability of the port facility and the programmed plant shutdown, all contributed to reducing production -and therefore sales- of LNG. These events resulted in a loss for the fiscal year of US\$74.9 million and an EBITDA of US\$145 million.

Despite the events described in the previous paragraph, the company successfully concluded a debt and local bond refinancing project in the month of March. Furthermore, the beginning of July saw the start of a natural gas processing project or "Tolling Agreement" by which liquefied natural gas will be distributed to the Peruvian market.

During the first quarter of 2018, a general meeting of shareholders approved a debt management process, which consisted an international bond issue under Rule 144A and Rule S of the United States Securities Act of 1933, aimed at managing up to US\$ 75 million of working capital for a period of 3 years; early payment of the senior debt, which included local bonds, termination of financial swaps and a line of working capital granted to the company by the Banco de Credito del Peru amounting to US\$ 37.5 million. On the 22th of March 2018 the company launched an international bond issue under Rule 144 A and Regulation S of the United States Securities

Act of 1933 valued at US\$ 940 million at a fixed interest rate of 5.375 percent maturing in March 2030. The funds from this issue, added to funds kept in the reserve accounts and part of the cash balance, were used to pay: (i) loans from the Inter-American Development Bank (IDB), the International Finance Corporation (IFC), the Export Import Bank of Korea (K-EXIM), the Export Import Bank of the United States (US EXIM) and SACE S.P.A. Servizi Assicurativi del Commercio Estero (SACE), (ii) the balance of the First Corporate Bond Program (Third and Fourth Issues) and (iii) swap contracts with Credit Agricole, Banco Bilbao Vizcaya and Societé Generale; for that purpose the company entered into a Master Termination Agreement.

Furthermore, a new working capital finance and bank guarantee agreement was entered into with the Banco de Credito del Peru up to a value of US\$ 75 million for a period of 3 years.

During the second half of the year the company began operations in accordance with a Natural Gas Processing agreement by which it receives and processes natural gas and then delivers it to Shell GNL Peru S.A.C. for distribution by road to the Peruvian market. As at the Dec. 31 2018, a total of 477 road tankers had been dispatched carrying a volume of 561,277 MMBtu. Furthermore, July 2018 saw the start of a planned plant shutdown, which takes place every 3 years for maintenance of its main components; this shutdown lasted approximately 22 Days. This process was completed without incident and the total cost for the year was US\$16 million.





#### x. Financial information

The financial information on PERU LNG given below was obtained from the audited financial statements of PERU LNG and their respective explanatory notes.

The financial statements of the company for fiscal years ending on Dec. 31 2018 and 2017 were audited by Caipo y Asociados Sociedad Civil, a member firm of KPMG International.

This financial information has been prepared in accordance with the International Financial Reporting Standards (IFRS) issued by the International Accounting Standard Board (IASB) in force as at Dec. 31 2018. The financial statements shown below for the year ending on Dec. 31 2018, are the first prepared by the company using IFRS 15 Revenue from Contracts with Customers and IFRS 9 Financial Instruments.

#### Independent auditors' opinion

#### To the shareholders of PERU LNG S.R.L.

We have audited the attached financial statements of PERU LNG S.R.L., a

subsidiary of PERU LNG Company L.L.C. of the United States of America, consisting of the statement of financial position as at the 31st of December 2018 and 2017, the statement of income and other integral results, changes in equity and cash flow for the financial years ending on those dates, as well as significant accounting policies and notes 1 to 29 attached hereto.

#### Management responsibility for the financial statements

The management is responsible for the preparation and reasonable presentation of the individual financial statements in accordance with the International Financial Reporting Standards issued by the International Accounting Standards Board and internal controls implemented by the management to ensure that the individual financial statements are free from material inaccuracies, whether deliberate or erroneous.

#### Auditor's responsibility

Our responsibility consists in giving an opinion on the financial statements based on our audits. Our audit was carried out in accordance with international audit standards approved for use in Peru by the Board of Rectors of the Professional Associations of Public Accountants of Peru. These rules demand **Opinion** that we meet ethical requirements and plan and carry out our audit such that we are reasonably certain that the financial statements do not contain significant errors.

An audit consists of procedures to obtain audit evidence of the balances and information contained in the financial statements. The procedures chosen depend on the auditor's judgment and include an evaluation of the risk that material inaccuracies may exist in the financial statements, whether through Lima Peru fraud or error. On carrying out this evaluation of risk, the auditor takes into consideration the company's internal controls used in the preparation and presentation of the financial statements in order to design audit procedures appropriate to the circumstances but not in order to express an opinion on Countersigned by the effectiveness of the company's internal controls. An audit also includes an evaluation of whether the accounting principles used are appropriate and whether the accounting estimates made by the management are reasonable, as well as an evaluation of the general presentation of the financial statements.

We believe that the evidence we have obtained is sufficient and appropriate to support our auditors' opinion.

In our opinion the above financial statements reasonably represent, in all significant aspects, the financial position of PERU LNG S.R.L. as at the 31st of December 2018 and 2017, its financial performance and cash flows for the years ending on those dates, in accordance with the International Financial Reporting Standards issued by the International Accounting Standards Board.

26th of February 2019

Henry Cordova C.

HENRY CORDOVA C. C.P.C.C. Registration Nº 01-28989



#### Statement of financial position

2018				
2018	2017	In thousands of United States dollars	2018	2017
		Assets		
		Current assets		
89,835	160,277	Cash and cash equivalents	89,835	160,277
-	189,728	Other financial assets	-	189,728
31,103	16,256	Tax assets	31,103	16,256
1,380	1,459	Other accounts receivable	1,380	1,459
72,487	108,771	Accounts receivable from non-arms-length entities	72,487	108,771
22,828	20,355	Inventories	22,828	20,355
8,498	15,282	Other non-financial assets	8,498	15,282
226,131	512,128	Total current assets	226,131	512,128
		Non-current assets		
2,236,589	2,365,934	Real estate, plant and equipment,	2,236,589	2,365,934
75,826	50,061	Deferred tax assets	75,826	50,061
20,681	-	Non-current part of tax assets	20,681	-
		Current part of other non-financial		
10,506	11,027	financial	10,506	11,027
2,343,602	2,427,022	Total non-current assets	2,343,602	2,427,022
0.5 (0.500	0.000.450	Total assets:	2 549 733	2,939,150
	31,103 1,380 72,487 22,828 8,498 226,131 2,236,589 75,826 20,681 10,506	- 189,728   31,103 16,256   1,380 1,459   72,487 108,771   22,828 20,355   8,498 15,282   226,131 512,128   2,236,589 2,365,934   75,826 50,061   20,681 -   10,506 11,027   2,343,602 2,427,022	Current assets89,835160,277Cash and cash equivalents-189,728Other financial assets31,10316,256Tax assets1,3801,459Other accounts receivable72,487108,771Accounts receivable from non-arms-length entities22,82820,355Inventories22,82820,355Inventories226,131512,128Total current assets226,131512,128Total current assets2,236,5892,365,934Real estate, plant and equipment, Deferred tax assets20,681-Non-current part of tax assets20,681-Total non-current assets2,343,6022,427,022Total non-current assets	Current assets B9,835 160,277 Cash and cash equivalents B9,835   - 189,728 Other financial assets - -   31,103 16,256 Tax assets 31,103 - -   31,103 16,256 Tax assets 31,103 - - -   31,103 16,256 Tax assets 31,103 - - -   72,487 108,771 Accounts receivable from non-arms-length entities 72,487 108,771 Accounts receivable from non-arms-length entities 72,487   22,828 20,355 Inventories 22,828 22,828   8,498 15,282 Other non-financial assets 8,498   226,131 512,128 Total current assets 22,236,589   2,236,589 2,365,934 Real estate, plant and equipment, 2,236,589   20,681 - Non-current part of tax assets 75,826   20,681 - Current part of tax assets 2,343,602   2,343,602 2,427,022 Total non-current assets 2,343



Resul	ts
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In thousands of United States dollars	2018	2017
Earnings from ordinary activities	954,685	685,755
Sales cost	(906,459)	(576,864)
Gross profit	48,226	108,891
Distribution and sales costs	(27,017)	(25,250)
Management costs	(22,823)	(23,484)
Other operating income	322	160
Operating results	(1,292)	60,317
Financial income	1,944	3,414
Financial costs	(104,273)	(64,946)
Exchange rate difference, net	(337)	830
Loss before taxes	(103,958)	(385)
Income tax	29,069	(1,875)
Results of the fiscal year	(74,889)	(2,260)
Other integral results		
Derivatives	27,980	14,403
Corporation tax	(8,394)	(4,321)
Other integral results, net of tax	19,586	10,082
Total integral results for the fiscal year	(55,303)	7,822



#### y. Results - 2018

During fiscal year 2018, although LNG prices rose compared with 2017, external factors during February and October caused sales volumes of LNG to fall by 17.7 TBtu with respect to the previous year. Furthermore, because of the programmed plant shutdown and debt refinancing, the company incurred among others, making a total of US\$ 63 million. Additionally, the financial cost higher costs, resulting in a loss for the financial year of US\$ 74.9 million.

Total earnings as at the close of fiscal year 2018 amounted to US\$ 955 million, 39 percent (US\$ 269 million) more than at the close of fiscal year 2017 (US\$ 686 million) principally as the result of a rise in NBP and JKM prices.

The sales cost as at the close of fiscal year 2018 was US\$907 million, 57 percent (US\$330 million) higher than in 2017, when the figure for the close of year was US\$577 million. This variation was the result of an increase in the prices mentioned above and the costs incurred by the programmed plant shutdown, which amounted to US\$16 million.

EBITDA as at the close of December 2018 was US\$ 145 million, 30 percent lower than the figure for the same period in 2017, which was US\$ 207 million. contracts. This variation arose from a 56 percent (US\$ 61 million) reduction in gross margin from US\$ 109 million in 2017 to US\$ 48 million in 2018, principally due to lower production during the year because of the external factors occurring in February and October 2018, the cost of the programmed plant shutdown and the provision for Minimo Manzanillo amounting to US\$91 million.

Financial expenses as at the close of fiscal year 2018 reached US\$ 104 million, 60 percent higher than in the same period in 2017 (US\$ 65 million), the result of debt refinancing. As a consequence of this refinancing, the company incurred

costs relating to: (i) termination of swap contracts valued at US\$ 16 million, (ii) issue costs of the previous debt amounting to US\$ 27 million, (iii) the cost of early payment of senior debt and local bonds amounting to US\$ 10 million, of the new debt amounted to US\$ 39 million.

As at the 31st of December 2018, cash and cash equivalents was US\$90 million, 44 percent (US\$70 million) lower than at the close of 2017 (US\$ 160 million). The reduction was due principally to payments made during the year in relation to (i) the refinancing process, (ii) payment of the first coupon of the international bond issued in March 2018, (iii) the cost of the programmed plant shutdown and (iv) the Minimo Manzanillo payment for fiscal year 2017.

Total assets at the close of the year amounted to US\$ 2,570 million, 13 percent (US\$ 369 million) less than the US\$ 2,939 million recorded at the end of December 2017. This variation is explained principally by the use of the funds for early payment of the senior debt, local bonds and termination of the swap

Total liabilities as at the close of 2018 amounted to US\$ 1,246 million, 20 percent (US\$ 314 million) lower than the figure of US\$ 1,560 million recorded in December 2017. This change can be explained by early payment of the senior debt and local bonds amounting to a total of US\$ 1,221 million, net of the international bond issue valued at US\$940 million.







